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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
DOAK, JENNIFER L				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/561,148

Applicant(s)

TOURNAY ET AL.

Examiner

Jennifer L. Doak

Art Unit

2872

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-34 is/are pending in the application.
- 4a) Of the above claim(s) 19 and 20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 is/are allowed.
- 6) ☒ Claim(s) 3-6, 8-15, 21-23 and 25-32 is/are rejected.
- 7) ☒ Claim(s) 7, 16, 17, 24, 33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on (unfiled) is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: NPL - ISO 1522

DETAILED ACTION

Election/Restrictions

Claims 19-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant's election with traverse of the lack of unity requirement in the reply filed on 8/21/08 is acknowledged. The traversal is on the ground(s) that no burden was established in the requirements. This is not found persuasive because lack of unity only requires a showing of different inventive concept, not a showing of burden.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Specification

The title of the invention is not sufficiently descriptive. "The title should be brief but technically accurate and descriptive and should contain fewer than 500 characters," MPEP §606. Specifically, statements concerning the general type or nature of the entire system or its components that are common to many other similar elements or systems that are known in the art are not sufficiently descriptive to provide "informative value in indexing, classifying, searching, etc.," MPEP §606.01. Examiner recommends directing the title to what Applicant believes is the

point of novelty, since it is by the novelty that "indexing, classifying, searching, etc." is generally accomplished. Nevertheless, it should be noted that, pursuant to MPEP §606.01, "[i]f a satisfactory title is not supplied by the applicant, the examiner may, at the time of allowance, change the title by examiner's amendment." A new title is required that is more clearly indicative of the invention to which the claims are directed.

The abstract of the disclosure contains the legal language "comprises" and "selected from the group consisting of." Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

Claims 12 and 29 are objected to because of the following informalities: they use the word "aluminium," which is not properly spelled. Appropriate correction is required.

Claim(s) 3, 6, 21, 22 is/are objected to because of the following informalities: It/they is/are not in the proper Markush format. See MPEP §2173.05(h)(I). Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 4, 5, 10, 11, 13, 14, 27, 28, 21, 23, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Somerhausen (US 5096785).

Regarding independent claim 3, Examiner makes the following findings of fact: Somerhausen discloses a mirror which comprises: a glass substrate (col. 1, ln. 56); a silver

coating layer on a surface of the glass substrate (col. 4, lns. 47-50); and an exposed paint layer overlaying the silver coating layer (col. 1, ln. 55-63), this paint layer being an epoxy paint layer (col. 4, ln. 12); the mirror having at least one of the following properties: (a) a scratch resistance determined by the Clemen test showing scratches of less than 10 μm when applying a weight of 1500 g; (b) a hardness determined by the Persoz pendulum (col. 3, lns. 43-46) of at least 250 s; or (c) a commercially acceptable resistance to at least one glue selected from the group consisting of an oxime, an alcoxy, a MS polymer and a rubber glue. Elements (a), (b), and (c) are indicated in the alternative, and it is noted that the special definition of "commercially acceptable resistance" of limitation (c), as found in the specification of the application is "in relation to a glue means that the results of subjecting a sample of a mirror to the Bain Marie test or the humid chamber test are "acceptable" or "ok" on the scale ..." in the specification of the same page (p. 13).

Examiner further finds that at least the limitation that (b) a paint hardness is determined by the Persoz pendulum (col. 3, lns. 43-46). The reference does not disclose the results range of at least 250 s. The disclosed range is $150 < x < 180$. The benefit is low residual internal stress of the paint, reducing interfacial stresses (col. 3, lns. 47-49).

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a result of 250 rather than 180, since the claimed ranges and the prior art ranges are close enough that one skilled in the art would have expected them to have the same properties, *Titanium Metals Corp. of America v. Nabber*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) and further being motivated to reduce interfacial stresses on the mirror.

Regarding independent claim 21, Examiner makes the following findings of fact:

Somerhausen teaches all the elements in common with claim 3, as set for the above and herein incorporated, and further discloses at least one of: (i) palladium provided at a surface of the glass substrate; (ii) at least one material selected from the group consisting of: bismuth, chromium, gold, indium, nickel, platinum, rhodium, ruthenium, titanium (col. 6, ln. 6), vanadium and zinc provided at a surface of the glass substrate. The remainder of the materials is well known materials to use in the making of mirrors. The benefit of any of these materials is to provide an activated substrate.

Therefore, Examiner finds that it would have been obvious to an ordinarily skilled artisan at the time of invention to use any of these materials as a layer on a mirror to provide an activated substrate.

Regarding claim 4, Somerhausen further discloses that at least one material selected from the group consisting of bismuth, chromium, gold, indium, nickel, palladium, platinum, rhodium, ruthenium, titanium (col. 6, ln. 6), vanadium and zinc is provided at the surface of the glass substrate, which is coated with the silver coating layer (col. 6, lns. 3-4). The remainder of the materials is well known materials to use in the making of mirrors. The benefit of any of these materials is to provide an activated substrate.

Therefore, Examiner finds that it would have been obvious to an ordinarily skilled artisan at the time of invention to use any of these materials as a layer on a mirror to provide an activated substrate.

Regarding claims 5 and 23, Somerhausen further discloses that the exposed-epoxy paint layer is the only layer of paint of the mirror (col. 6, EXAMPLES I-III; i.e., although it does not

explicitly disclose that the paint is "only one layer", only one paint coating is disclosed, therefore insofar as only one is disclosed, the limitation is considered met).

Regarding claims 10, 11, 27, and 28, Somerhausen does not explicitly disclose that the epoxy paint layer has, a thickness, in the range 25-55 μm , or, further, that the epoxy paint layer has a thickness in the range 35-40 μm . However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller*, 105 USPQ 233 (C.C.P.A. 1955). The benefit of optimizing the range is to balance the quantity of material with the quality of the product, including reflectance and durability.

Therefore, Examiner concludes that it would have been obvious to an ordinarily skilled artisan at the time of invention to optimize the thickness of the epoxy paint within the stated ranges so as to best balance the quantity of epoxy paint and the quality of the product.

Regarding claims 13 and 30, Somerhausen further discloses that the silver coating layer has a thickness of 60 to 110 nm (Somerhausen, col. 5, lns. 26-30).

Regarding claims 14 and 31, Somerhausen further discloses that the epoxy, paint, layer is substantially lead-free (i.e., at col. 6, ln. 9, lead pigment is given a value of only 15%; "substantially" may be defined as "being largely but not wholly that which is specified," *Merriam-Webster's Collegiate Dictionary* 1245 (11th ed. 2003), and that value is less than 90% of the total, in fact, less than $\frac{1}{2}$ or $\frac{1}{3}$ or even $\frac{1}{4}$ of the total, it is not a substantial amount, and therefore, substantially lead-free).

Claims 6, 8, 9, 12, 15, 22, 25, 26, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Somerhausen (US 5096785) in view of Servais (US 5240776).

Regarding claims 6, 8, 22, and 25, Examiner makes the following findings of fact: Somerhausen discloses that the mirror (b) a hardness determined by the Persoz pendulum of at least 250 s (as set forth above in the analysis of claim 3. Somerhausen does not disclose a second of three properties, in the alternative: (a) a scratch resistance determined by the Clemens test showing scratches of less than 10 μm when applying a weight of 1500 g; (c) a commercially acceptable resistance to at least one glue selected from the group consisting of an oxime, an alkoxy, a MS polymer and a rubber glue.

Somerhausen and Servais are related as reflective articles, and would have been known to an ordinarily skilled artisan at the time of invention. Servais teaches (c) a commercially acceptable resistance to at least one glue selected from the group consisting of an oxime, an alkoxy, a MS polymer and a rubber glue (col. 7, lns. 23-33; i.e., a "fog test" is a humid test for the taught oxime-linked silicone). The benefit of the test is to be sure the reflective surface will not become cloudy (col. 7, lns. 33-37).

Therefore, Examiner concludes that it would have been obvious to an ordinarily skilled artisan at the time of invention to use a humid, fog test, as in Servais, to test the mirror of Somerhausen to be certain that it would not become cloudy.

Regarding claims 9 and 26, the combination further discloses that tin is present at the surface of the glass substrate adjacent to the silver layer (Servais, Abstr.).

Regarding claims 12 and 29, the combination further discloses that at least one material selected from the group consisting of tin (Servais, Abstr.), chromium, vanadium, titanium, iron, indium, copper, and aluminum is present at the surface of the silver coating layer which is adjacent to the paint layer overlaying the silver coating layer. The remainder of the materials is

well known materials to use in the making of mirrors. The benefit of any of these materials is to provide an activated substrate.

Therefore, Examiner finds that it would have been obvious to an ordinarily skilled artisan at the time of invention to use any of these materials as a layer on a mirror to provide an activated substrate.

Regarding claims 15 and 32, the combination further discloses traces of silane are present at the surface of the silver coating layer adjacent to the paint layer (Servais, col. 12, lns 14-27).

Allowable Subject Matter

Claim 18 is allowed.

Claims 7, 16, 17, 24, 33, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 7 and 24, in combination from claim 3, though the prior art discloses all the limitations of claims 3 and 21, respectively, and further discloses

wherein the mirror has all of the following, properties:

- (b) a hardness determined by the Persoz pendulum of at least 250 s;
- (e) a commercially acceptable resistance to at least three glues selected from the group consisting of an oxime, an alcoxy, a MS polymer and a rubber glue.

the prior art of record fails to teach or suggest the aforementioned combination further comprising

- (a) a scratch resistance determined by the Clemen test showing scratches of less than 10 lam when applying a weight of 1500 g.

The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 18, though the prior art discloses

A mirror with no copper layer which consists essentially of, in the order recited: a substrate in the form of a flat, soda lime glass sheet having a surface, palladium and tin provided at said surface of the glass sheet, a silver coating layer on said surface of the glass sheet, tin present at the surface of the silver coating layer; a single, exposed paint layer covering the silver coating layer this paint layer being an epoxy paint layer; the mirror having all of the following properties:

- (b) a hardness determined by the Persoz pendulum of at least 250 s;
- (c) a commercially acceptable resistance to at least three glues selected from the group consisting of an oxime, alcoxy, a MS polymer and a rubber glue;

the prior art of record fails to teach or suggest the aforementioned combination further comprising

- (a) a scratch resistance determined by the Clemen test showing scratches of less than 10 μm when applying a weight of 1500 g;
- (d) an average, edge corrosion of less than 200 μ when subjected to a 120 hour CASS test.

Regarding claims 16 and 33, the prior art does not teach or suggest that the mirror including the specific arrangement for the mirror having an average edge corrosion of less than 200 μ when subjected to: a 120 hour CASS test as set forth in the claimed combination(s).

Regarding claims 17 and 34, the prior art does not teach or suggest the mirror including the specific arrangement for the mirror having an average edge corrosion of less than 50 μ when subjected to a 480 hour salt-fog test as set forth in the claimed combination(s).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Laroche (US 6147803) is also cited as a similar mirror.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Doak whose telephone number is (571)272-9791. The examiner can normally be reached on Mon-Thurs: 7:30A-5:00P, Alt Fri: 7:30A-4:00P (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JD
10/20/08

/Stephone B. Allen/
Supervisory Patent Examiner
Art Unit 2872